Commitment Scheduling
Making Project Management Faster, Easier and More Accurate

A White Paper
by Michael A. Maguire, PE, PMP

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Executive Summary

Planning, scheduling and tracking progress are necessary tasks for running an efficient, profitable business.

We all know that planning and scheduling are vital to project managers. But, what many managers don’t realize, is that they are just as vital to everyone else who needs to efficiently manage time, tasks and commitments—which makes them important to every executive, manager and administrative worker.

These important tasks, as practiced by many project managers today are both inaccurate and overly time-consuming, while failing to provide the necessary information to managers and decision makers so they can make the best decisions possible.

Furthermore, non-project managers rarely, if ever, receive any help, training or tools to help them manage workflow and generate commitments.

With a series of tried-and-tested techniques, some newly developed and others researched from the past, Commitment Scheduling solves all these problems. This paper introduces the Michael Maguire’s Implementation of Commitment Scheduling and work management, which:

1. Makes planning, scheduling and tracking projects easier and more accurate for project managers.
2. Provides a rationale to make forecasts and commitments, improving on educated guesses.
3. Provides useful commitment scheduling and tracking ideas for non-project scheduling: the daily tasks and duties of most executives, managers and even administrative workers.
4. Reduces the time needed to update and maintain schedules.
5. Simplifies schedule interpretation for a true understanding of the schedule’s current status.
6. Increases effectiveness of scheduling, planning and reporting to provide managers with the important information they need to make proper decisions.
7. Improves quality of schedules, because the intuitive schedule design allows a wider community to comment on its viability.
8. Increases project success rates through the sobriety it brings to schedules doomed by optimism.

Immediate Benefits of Commitment Scheduling

Far from academic or esoteric, these methods make business sense, directly affecting the bottom line through:

1. Improved productivity to reduce costs, and
2. Better information for management decision-making which provides a strategic advantage.
Problems with Current Project Management Practices

Every year, companies waste thousands of hours due to inefficient work management, and ineffective planning. According to the Standish Group, only 34% of projects are successful. While up from 16% in 1994, this is still a dismal figure that should—and can—be improved.

Planning to Fail
Many projects fail because of bad planning: setting impossible goals that can’t be met.

Lacking Tracking
Many of today’s projects fail because the projects aren’t properly tracked, allowing them to veer out of control.

Rotten Reporting and Crummy Communication
Project managers often print out large, visually impressive charts—because the software they use makes it easy. But these charts don’t always contain the needed information in an understandable format. Even when information that can prevent disaster is in the tracking documents or software, it isn’t understood or communicated well enough that action can be taken. Printing out and handing out Gantt charts or network diagrams to team members isn’t enough. Projects that involve humans require human-to-human communication to keep everyone informed.

Inadequate or Improper Tools
Thousands, if not hundreds of thousands of dollars are spent on project management software and training, and countless hours are spent serving and updating the software—yet schedules go unmet and untracked, and the vital information that managers need to make the best possible decisions goes unexposed.

At least part of the problem is that the currently available tools don’t meet the needs of today’s projects. The high-end tools alone are too restrictive, and the low-end tools aren’t powerful enough. The basis of many of today’s project management tools is Critical Path Management (CPM). CPM is used because it suits computers well. It translates project schedules into mathematical models that computers can calculate and display in various ways. But CPM is often too rigid and unforgiving to deal with the chaotic—and human—nature of real world projects.

Impractical Allocation
Current practices in project planning are rate based, allocating percentages of time each professional is available for a project. In reality, professionals can only work one task at a time.

Summary
Current standards and practices in time, work and project management need improvement.
Commitment Scheduling

The author of this paper believes that commitment scheduling, rather than rate-based scheduling is central to improving the state of project and work management.

In brief, commitment scheduling requires each person involved with a project to forecast their own completion dates for tasks they have been assigned. These forecasts are, of course, subject to review and negotiation. When an agreement has been reached, that date becomes a commitment, and the person making the commitment signs their name as a promise of completion.

During these negotiations, it is important to avoid incentive scheduling, where a resource gives an honest, reasonable, achievable forecast and a manager forces agreement to an earlier time. When people are forced to commit to a deadline they don’t really believe they can make, there is a higher percentage of missed dates and failed projects.

The four basic concepts of commitment scheduling are:

1. **Work Management—Not Just Project Management**

   To realistically plan and schedule a project or process, we must rise above project management to work management. All work—not just project work—must be considered, along with meetings and other appointments to manage one’s work and generate commitments that can be met.

   When planning a schedule, take all necessary tasks that occur during the business day, and give them reasonable time consideration. Ignoring the time that we spend in meetings, on the phone and even catching up on email and paperwork creates a schedule that is destined to fail.

   Since work management involves non-project work, it relates to almost everyone involved in a business, from executives to managers to administrative assistants.

2. **Daily Planning**

   Daily Planning integrates all time-consuming activities, as identified in work management, into a single plan. This plan is drawn up by each individual person, resource or resource manager.

   Because each individual creates their own low-level plan based on their personal knowledge of their working day, these plans are generally more accurate. Plus, since each person is, in effect, committing to a certain amount of time and progress based on their own self-knowledge, there’s not the excuse that someone else made impossible demands on them if they fall behind schedule.

   Components of the daily plan are:

   - Project activities (from any form of schedule, CPM included)
   - Non-project activities (hiring staff, performance reviews, miscellaneous to do lists, etc.)
   - Meetings, appointments, and time off
• Administrative time (answering emails and voice mails, interruptions and visits, updating the daily work plan, and performing important/urgent analyzes).

**Daily Planning Process**

1. Estimate durations for all activities and appointments on the list.

2. Sequence the integrated list of all time-allocated functions. Maneuver and split activities to allow for meetings and appointments that have specific time slots.

3. Calculate/recalculate forecast dates for all assigned tasks.

4. Negotiate commitments from new forecast dates, and report on status of existing commitments. New commitments become priorities in subsequent daily plans. Commitments that appear in danger of missing their completion date need to be reported and, possible, renegotiated.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Hire per day</td>
<td>8:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Hire per day administration</td>
<td>2:52</td>
<td></td>
<td></td>
<td></td>
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</tr>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>Activity</th>
<th>Need Date</th>
<th>Committed Date</th>
<th>Sequence Number</th>
<th>Duration in Hours</th>
<th>Cumulative Hours</th>
<th>Date Cpt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Fix license problem wi-fi</td>
<td>3/26/03</td>
<td>3/25/03</td>
<td>1</td>
<td>2</td>
<td>2.0</td>
<td><em>3/26/03</em></td>
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<td>7</td>
<td>Configure and install CSU router and firewall for Acme project</td>
<td>3/27/03</td>
<td>3/27/03</td>
<td>2</td>
<td>4</td>
<td>6.0</td>
<td><em>3/27/03</em></td>
</tr>
<tr>
<td>8</td>
<td>Setup laptop for external access to LAN using RAS</td>
<td>3/27/03</td>
<td>3/27/03</td>
<td>3</td>
<td>3</td>
<td>3.0</td>
<td><em>3/27/03</em></td>
</tr>
<tr>
<td>9</td>
<td>Define/rewrite scope upgrade to transmit video files</td>
<td>3/27/03</td>
<td>3/27/03</td>
<td>4</td>
<td>2</td>
<td>11.0</td>
<td><em>3/27/03</em></td>
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<td>10</td>
<td>Reconfigure application with locally installed software</td>
<td>3/27/03</td>
<td>3/27/03</td>
<td>5</td>
<td>5</td>
<td>16.0</td>
<td><em>3/27/03</em></td>
</tr>
<tr>
<td>11</td>
<td>Install all security patches and/or service packs to all Windows servers</td>
<td>3/28/03</td>
<td>3/28/03</td>
<td>5</td>
<td>2</td>
<td>18.0</td>
<td><em>3/28/03</em></td>
</tr>
<tr>
<td>12</td>
<td>Setup laptop for external access to LAN using VPN</td>
<td>3/28/03</td>
<td>3/28/03</td>
<td>7</td>
<td>3</td>
<td>21.0</td>
<td><em>3/28/03</em></td>
</tr>
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<td>Meet with sponsors of a new application 9 am 3/30/03</td>
<td>3/30/03</td>
<td>3/30/03</td>
<td>8</td>
<td>2</td>
<td>23.0</td>
<td><em>3/30/03</em></td>
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<tr>
<td>14</td>
<td>Recommend process to synchronize time on all company computers</td>
<td>3/31/03</td>
<td>3/31/03</td>
<td>9</td>
<td>3</td>
<td>26.0</td>
<td><em>3/31/03</em></td>
</tr>
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<td>15</td>
<td>Document firewall configuration</td>
<td>3/31/03</td>
<td>3/31/03</td>
<td>10</td>
<td>4</td>
<td>30.0</td>
<td><em>3/31/03</em></td>
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<td>16</td>
<td>Create scope and plan to consolidate servers</td>
<td>3/31/03</td>
<td>3/31/03</td>
<td>11</td>
<td>4</td>
<td>34.0</td>
<td><em>3/31/03</em></td>
</tr>
<tr>
<td>17</td>
<td>Continuously complete spam filtering evaluation</td>
<td>3/31/03</td>
<td>3/31/03</td>
<td>12</td>
<td>2</td>
<td>36.0</td>
<td><em>3/31/03</em></td>
</tr>
<tr>
<td>18</td>
<td>Write network startup/shutdown procedure</td>
<td>3/31/03</td>
<td>3/31/03</td>
<td>13</td>
<td>5</td>
<td>41.0</td>
<td>Beyond</td>
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<tr>
<td>19</td>
<td>Review and document operating system backup procedures</td>
<td>3/31/03</td>
<td>3/31/03</td>
<td>14</td>
<td>1</td>
<td>42.0</td>
<td>Beyond</td>
</tr>
<tr>
<td>20</td>
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<td>3/31/03</td>
<td>3/31/03</td>
<td>15</td>
<td>1</td>
<td>43.0</td>
<td>Beyond</td>
</tr>
<tr>
<td>21</td>
<td>Rebuild development test server</td>
<td>3/31/03</td>
<td>3/31/03</td>
<td>16</td>
<td>1</td>
<td>44.0</td>
<td>Beyond</td>
</tr>
</tbody>
</table>

**Example of a Daily Plan, in an Excel Spreadsheet.**
3. Two Finish Dates: the Need Date and the Forecast Date

Most project management involves tracking the beginning and ending date for each task or goal. There are many variations of these dates (early start, late start, mandatory start, etc.). In spite of the variation, this method leaves out vital information, such as, who set and “believes in” the date. It may be a date set by the project sponsor, or by the person completing the task. The question is: does everyone, including management and all resources, believe that those dates are realistic and accomplishable?

Furthermore, when a resource slips behind schedule, there is not always a simple, integrated process to notify stakeholders that action needs to be taken.

Commitment Scheduling solves both the “belief” factor and incorporates simple, timely notification of slippage by introducing the dual date concept;

- The need date is the domain of the project sponsor or management. This is the overall goal for completion of tasks and the project as a whole.
- The forecast or commitment date is the domain of the resource (and their supervisor). This is the date when the person actually performing the task believes it will be completed.

These two dates should be separately tracked by their owners, and constantly compared. When they don’t match fairly closely, then it’s time for reconciliation.

Segregating need and forecast completion dates exposes scheduling problems and potential problems early, leading to early resolution of any conflicts and reconciliation of schedules. The earlier the problem is identified, the greater the number of alternative solutions are available for consideration.

Furthermore, this segregation by the political orientation of the one who generates the date empowers everyone on the project. Everyone takes responsibility for their forecasts (with supervisor approval). People who set their own dates have bought into the plan, and are motivated to back up their forecasts with timely performance.

Why Separate Need and Forecast Dates?

A professional’s (i.e., engineer, lawyer, programmer, accountant, etc.) work is discontinuous. Constant interruptions and receipt of new input changes the activity and its completion time. Tracking a professional's work by “percent complete,” as it is done in CPM-based tools, is inappropriate. The tool demands a number that must be fabricated to attempt to reflect reality.

The real question is: “Will the activity be completed on schedule?” not “What percentage of the activity is complete?” The professional resource may not have started the activity, with 50% of forecasted time elapsed, but the commitment date may still be good. And if so, the activity is on schedule!

The best assurance to the sponsor or project manager that the professional is on schedule is a valid daily plan, observing that the forecasts and commitments for each day are being met.
Reconciling

It is the project manager’s job to reconcile the need and forecast dates. When the dates begin to drift apart, the project manager must make the time/resource decisions and implement those decisions with the standard techniques (outsourcing, activity splitting, etc.).

4. Data Integration

Integration with Standard Project Management Tools

The segregation of need and forecast dates facilitates the linking of CPM-based Project Management packages to *Commitment Scheduling* daily plans. The CPM schedule is the basis for the need date. The resource, through development of his/her daily plan generates the current forecast date, which should be ‘uploaded’ back to the CPM.

Forecast dates are data manually (at this time) input back to the CPM as the ‘current schedule,’ as mandatory dates, so the CPM does not change the commitments. The commitments will be overwritten by the daily planning process and subsequent daily plans should commitments change, therefore a concern about the use of mandatory dates in a CPM tool is mitigated.

Most of the data exchanged between existing applications can be accommodated by adding fields to the existing database structures and establishing hierarchical relationships. The unique relationship is the one between a CPM project management package and work management tools.
Commitment Scheduling Details

Schedule Form and Format

The form and format for schedules recommended for use with *Commitment Scheduling* is not new. 40 years ago, before current project management software packages existed, schedules were drafted manually. The form and format is a report specification that the computer software industry did not—or could not—meet. The advantage of the old form and format is that the density of information was greater and they were more intuitively understood.

Now that computers are more powerful, it is time to produce reports specified to that historical form and format, and multiplicity of schedules produced 40 years ago. Assigning a line number to each activity is the key information missing in most project management software that would allow the computer to represent the schedule in the old form.

Higher Density of Information

An example of a Gantt chart in current software packages show three activities as:

<table>
<thead>
<tr>
<th>Week One</th>
<th>Week two</th>
<th>Week three</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Review</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revise</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

And in the 40-year old format:

<table>
<thead>
<tr>
<th>Week One</th>
<th>Week two</th>
<th>Week three</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft</td>
<td>Review</td>
<td>Revise</td>
</tr>
</tbody>
</table>

As you compare these two formats, notice how far the eye must travel on the Gantt chart to match each task’s description with its time-based graphic representation. The potential reduction of report can be 7 to 1 as shown on a 73 activity schedule on pages 9 through 13.

On page 9 is the 73 activity schedule displayed in the improved format, on a single 8.5 x 11 inch page, reduced here for web page publishing.

On pages 10 through 13 are reductions of how these same 73 activities are represented in the standard CPM tool. It requires seven 8.5 x 11 inch pages to represent the same information.
Supervision

Since the complete list of work, including meetings and appointments is data in the daily plan, management of the work load is accessible to the supervisor as part of the review of the daily plan.

Either in manager-to-supervisor or in project manager-to-project participant relationships, the manager should delegate as much as possible. Keep the resource challenged—it stimulates job satisfaction.

Experience shows that teamwork is more productive than individuals reigning (heroes and chaos). Have meetings with a facilitator, not a chair. Have no rank in the room. Value everyone’s contribution. Establish an environment where everyone is allowed and anxious to contribute.

Training

While the supervisors closely monitoring their subordinates’ work, reference to each Job Description’s duties and responsibilities should be available. Any gap leads to training needs, training registration systems, and training records systems, all of which integrate with the daily plan.

Strategy

Commitment Scheduling can be a powerful tool for organizations that are trying to become Capeability Maturity Model (CMM) level 3. It provides a process that can be followed by marginally trained resources, so they can perform to needed standards. The integration and automation of these concepts makes information available so supervisors can manage larger staffs than ‘flat organizations’ now allow.

Meet the Plan

To meet the plan, reduce the planning effort by avoiding re-planning. Avoid incentive scheduling or the can’t you complete it sooner? challenge—they cause missed dates, and missed dates cause more missed dates, requiring a trip back to the drawing board for re-planning.

Provide contingency options at every level to reduce project risk; the resource provides contingencies at the daily plan level and the project manager at the project level.

Ethics

All relationships; supervisor to subordinate, Project Manager to Professional, stakeholder to participant should be based upon honesty, sincerity, and mutual benefit. This establishes trust between participants.

Measurement

Measure everything you can. To quote Pat Cannon, retired Operations Manager at AC Transit, “If you don’t measure it, it won’t get better.”

Track History

Develop the regimen to track history and make commitments. Put contingency into the daily plan.
Maintain planned duration and actual duration. Use history to prepare future commitments. Track schedule slips, and address their causes when making future commitments. Record reasons for slips and evaluate the risk of recurrence when creating future commitments. Develop processes that make the planned and actual become the same value.

Calibrate the resource’s (professional’s) ability to estimate durations. Incorporate this reality check into future plans.
Conclusion and Contact Information

*Commitment Scheduling* may be the answer to your company’s project management needs.

If you want to learn more about how *Commitment Scheduling* can help your company’s delivery dates and bottom line, contact Mike Maguire.

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Mr. Maguire has over 30 years of project management experience, with General Electric, Bechtel, Pacific Gas & Electric, as other private and public sector organizations.

He is a licensed Professional Engineer (PE), and Project Management Professional (PMP).


3 *Enterprise PM Software—The Search Continues*, by Chris Vandersluis PM Network November 2000

4 *CPM is not an effective tool in scheduling the details of engineering Work*, article by Derek Mason in *Cost Engineering*, ISSN: 0274-9696) Vol29/No 3 March 1987, Power Engineering May 1983